



Intelligent Technologies
and Software Architecture

ITA Labs

Custom software development Company profile

Edition 2021.12

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Featured Competencies

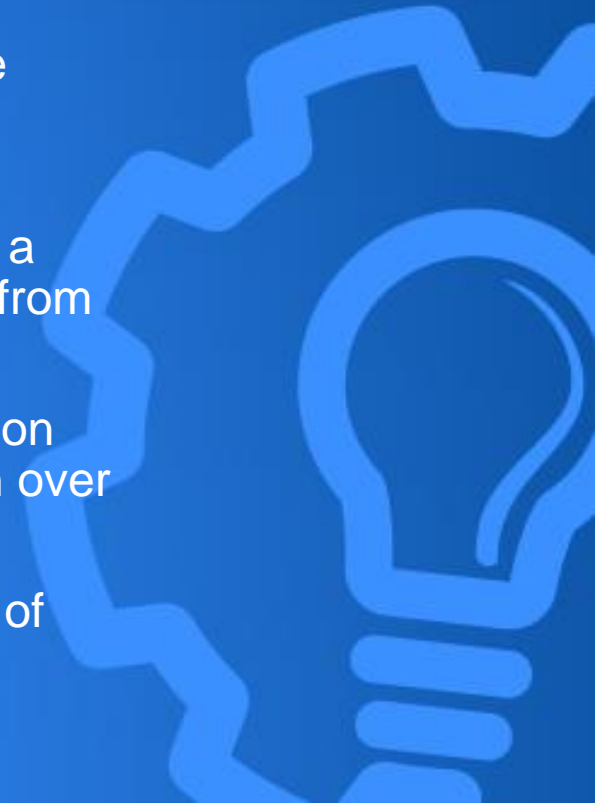
Custom design and development of high load identification, management and transaction processing systems:

- Micro-service architectures
- Distributed services and applications
- High-load services
- Transaction processing services
- IoT services
- Management, control and monitoring systems
- Biometric identification systems



Featured Projects

- **Biometrics:** biometric software (a set of servers) to ensure the uniqueness of voters nationwide for **tens of millions** of voters (**trillions** of comparisons)
- **IoT:** real time monitoring server for distributed security sensors: **50.000** real estate objects, **800.000** sensors, **50.000** tcp/ip simultaneous connections, **half a billion** requests daily
- **FinTech:** transaction processing systems (the core of the online banking system), a cryptographic confirmation system for the financial and non-financial transactions from the mobile phone of the user
- **PKI / Security:** the corporate system (its backend) management and data protection for **tens of thousands** of clients, the server (its core) second factor authentication over OTP / U2F from **10.000** requests per second on one host
- **Chat bots:** implementation of chat bots (this is also backend) including the usage of Microsoft AI services



Featured Clients

Aladdin R.D.

- **Enterprise Security** – Corporate disk encryption control server core components
- **Enterprise Security** – Smartcard & certificate lifecycle management control server core components, **100K** users
- **Enterprise Security** – High load authentication service core components, **10K** req/sec, **3M** users

Rosohrana

- **IoT** – high load server to monitor **800K** alarm/fire sensors in real time

Ipsidy

Fintech – Secure transactions service with PKI/Biometrics confirmation

Fintech – Remote ID document acquisition and biometric verification system with validation using federal databases

CSI Group

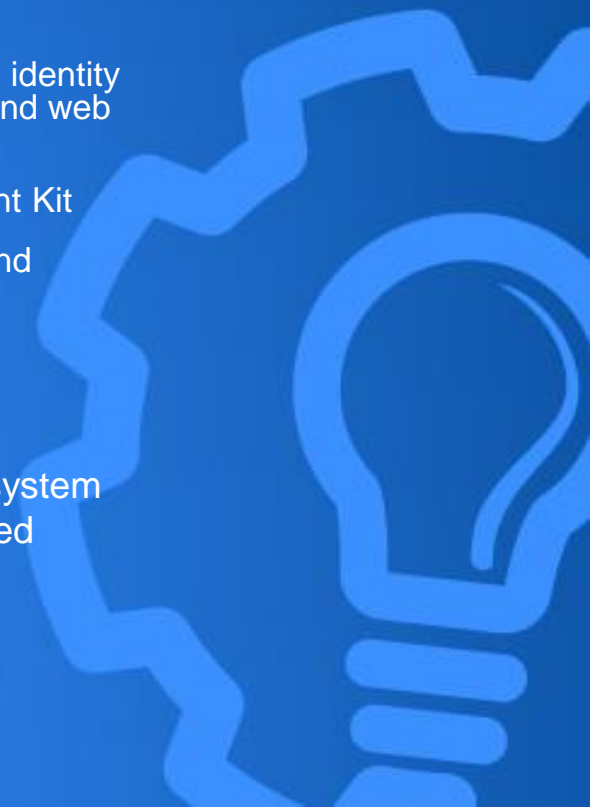
Hotline – Corporate incident and investigation management

ID Solutions

- **Biometrics** – Country wide biometric search system (AFIS), **6M+** records, **60** servers in the cluster
- **Biometrics** – Biometric identity management, service and web portal
- **Biometrics** – Enrollment Kit
- **Other** - A lot of SDKs and integration projects

NDA Bank

Fintech - Online banking system core, manual and automated payments, integration with back office



Highlights

Microsoft
Partner

Silver Application Development

- 17 years of server side software development
- Projects for top famous companies and government authorities, deployed on 3 continents of the world
- Microsoft Certified Partner
- Complete software development cycle
- High maturity infrastructure and processes
- Transparent software development process
- Individual software development infrastructure for each customer
- Own test laboratory with both real hardware and 100+ virtual machines with completely automated tests for each project



Featured Technologies

Platforms

- .NET Core / .NET
- Windows
- Linux

WEB

- ASP.NET MVC
- DevExpress
- jQuery

UI

- WinForms
- WPF
- DevExpress

Database

- MS SQL / MySQL / PostgreSQL / MongoDB / SQLite / Oracle
- EF / EF.Core / ADO.NET
- LINQ, FTSE

Services

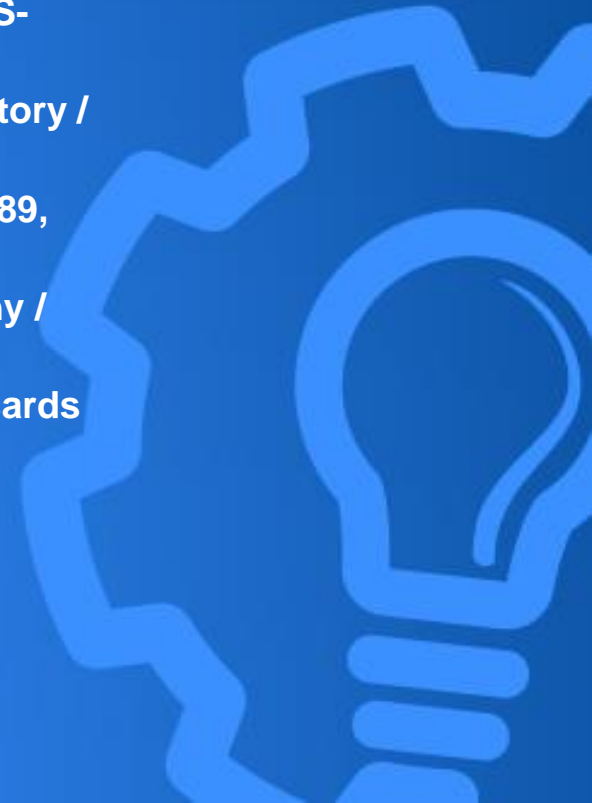
- Docker
- Windows Services
- Performance Counters & ETW
- Event logging & tracing
- MSI Installations

Network

- WCF / WIF
- REST JSON/XML
- HTTP / SOAP
- TCP/IP, UDP
- Web Services
- WebApi
- Push notifications
- NLB
- Failover Cluster
- Redis Streams
- MSMQ
- Rabbit MQ

Security

- JWT, OAuth 2.0
- WS-Trust/WS-Sec/WS-Fed
- Active Directory / ADFS
- OTP RFC 2289, 4226
- Cryptography / PKCS
- PKI / Smartcards
- U2F
- Biometrics
- HASP



Customer reviews and ratings

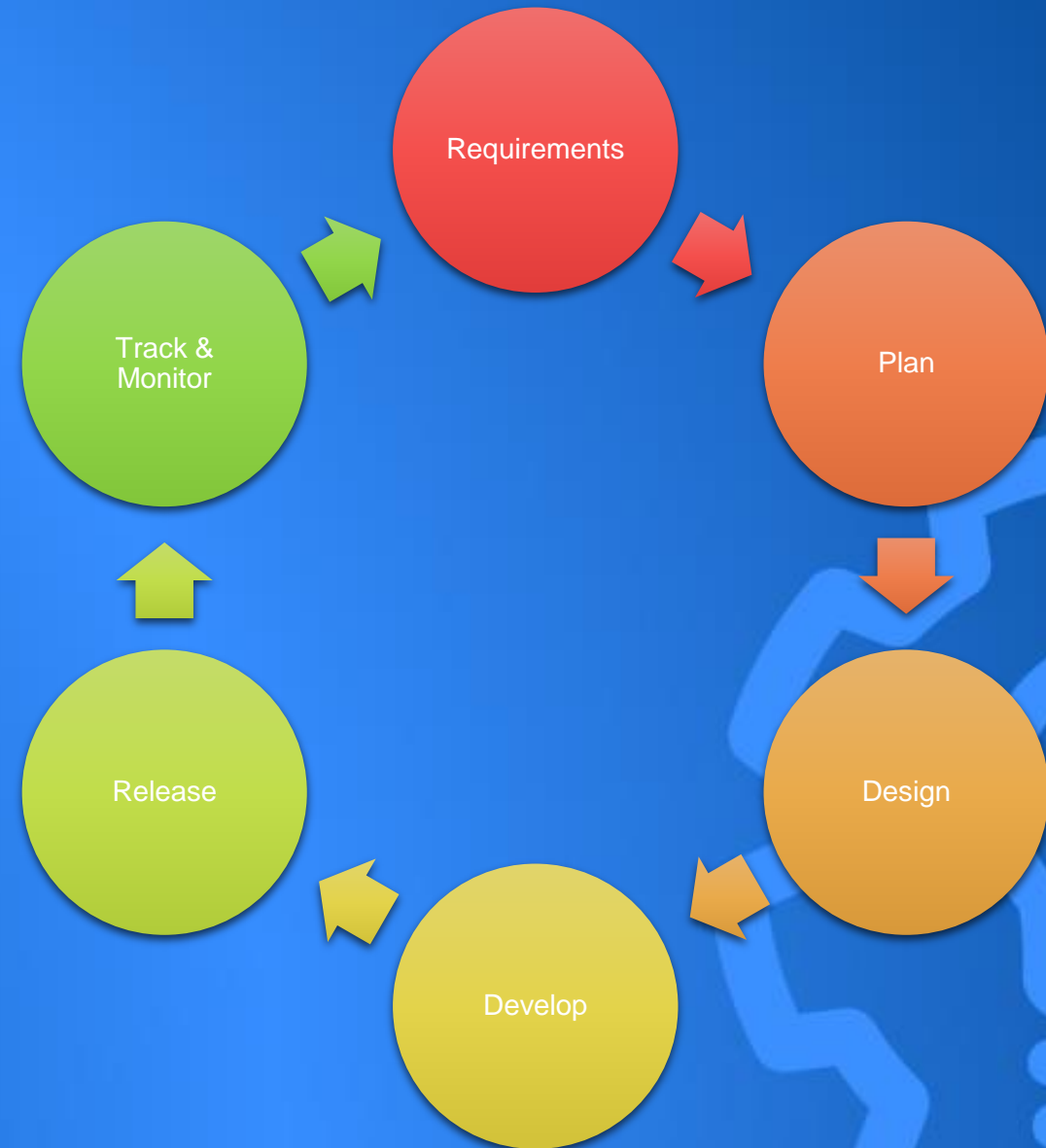
Please see what our clients say at most popular rating agencies:



Agile Processes

Migrated from waterfall to adapted version of **SCRUM** methodology:

- Prioritized Backlog
- Sprints 1-3 weeks
- Virtual Stand-ups
- Online Demos
- Retrospective



Automated and Integrated Infrastructure

High maturity infrastructure and processes are an ecosystem of tightly integrated resources for maximum automation and standardization of processes, efficient team collaboration and productivity.



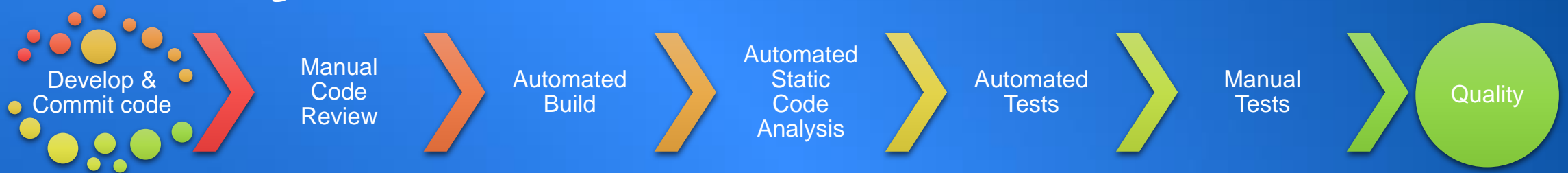
Full Lifecycle Management

All aspects of software design and development process are centrally managed and tracked.

All team members are in the loop of events and changes via management portal, e-mails, chat bots, push notifications.



Quality Control



Multilevel integrated quality control process:

- **Code Review** – manual code review process. Provides first level control to avoid architecturally and semantically wrong code
- **Automated Builds** – automated CI platform for builds in “sterile” infrastructure to guarantee that the right version is built in the right environment
- **Automated Static Code Analysis** – automatically finds most common coding errors
- **Automated Tests** – automated unit & integration tests to cover as many scenarios as possible to reduce human factor in testing
- **Manual Tests** – test case library based tests for functionality that hardly can be automated

Automated Release Engineering

Release engineering process:

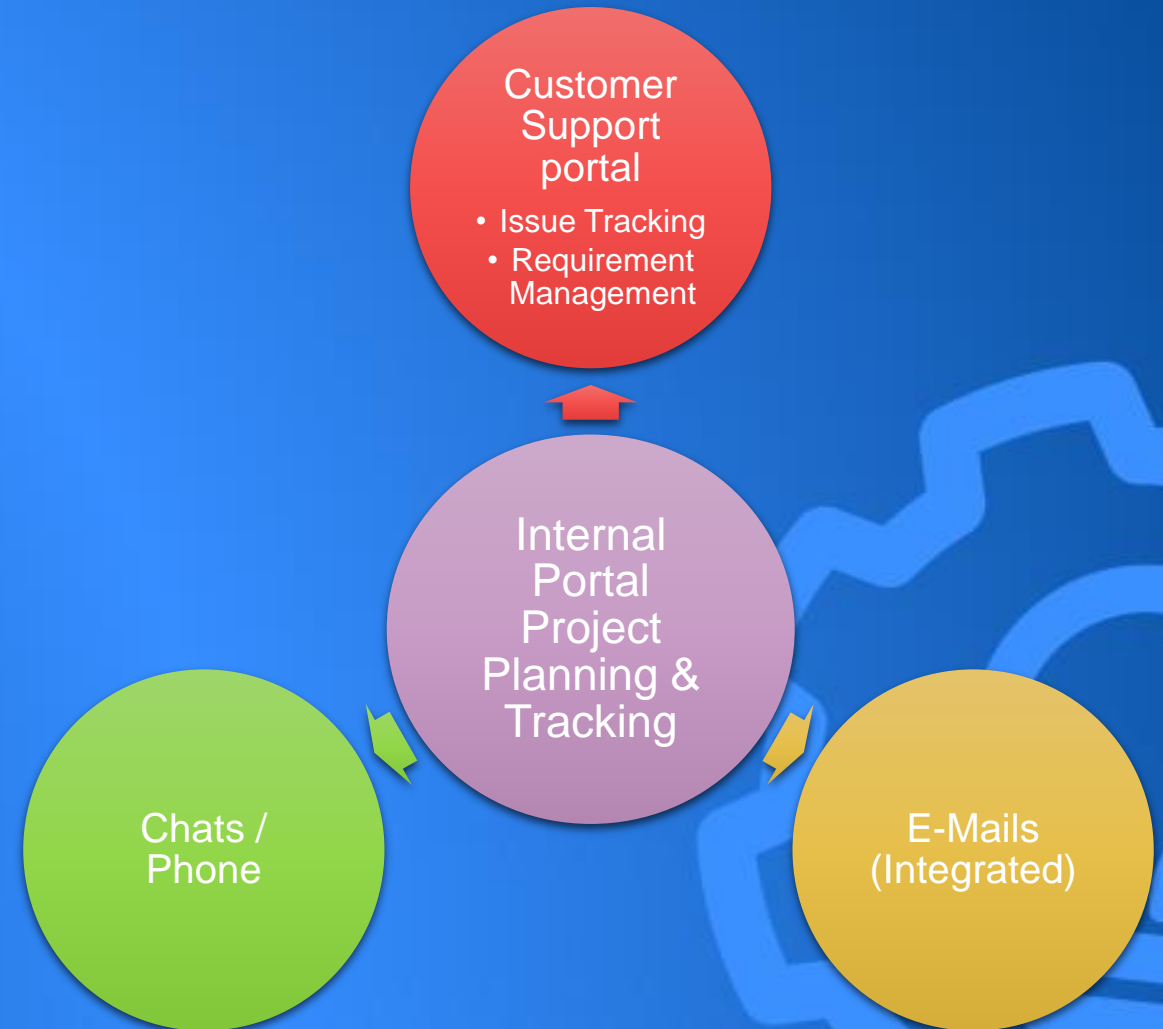
- Dedicated repository for each customer
- Dedicated build environment for each customer
- Automated product versioning scheme
- Standard delivery format
- Secure location to access deliverables



Customer Support

Customer support portal:

- **Support Portal** – Dedicated section on customer support portal for each customer
- **E-Mails** – Integrated into portal to provide customer multiple communication channels
- **Internal Portal** – Everything is integrated into internal portal to see and managed all things at one place
- **SLA** – 24h response time for critical issues



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